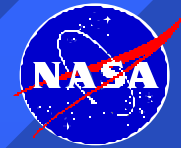


# Environmental Sensors

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## Electrostatic Sensors

### ✍ MECA flight electrometer

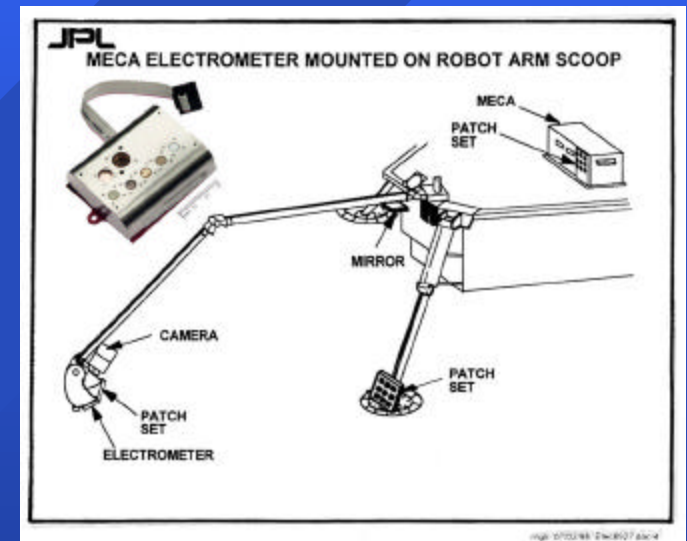
The *Mars environmental compatibility assessment* project's electrometer was jointly developed at JPL and KSC to facilitate the characterization of the electrostatic properties of different types of insulating materials that are likely to be used on future unmanned and manned explorations of Mars.

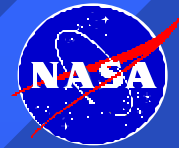
### ✍ MITCH Tribo Can

Part of the MITCH proposal for the MSO 2003 Lander. Detects charge accumulation on materials, correlates wind speed and direction with triboelectric charging and charged particle deposition.

### ✍ Paschen/Ionization Experiment

Part of the MITCH proposal for the MSO 2003 Lander. Determines breakdown characteristics, type of ions present in the atmosphere, and the presence of dust in the Martian atmosphere.



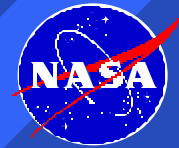


## Subsurface Science Sensors

### ✍ Pile Driver Probe for Subsurface Science Investigations

A JPL/KSC joint proposal to develop pile driver probe technology that will travel tens of meters below the surface of Mars, to measure the conductivity and corrosive properties of Martian soil using *in situ* electrical measurements.

Since the corrosion properties are dependent on the presence of a brine-rich water electrolyte, these measurements will also indicate the presence of water.



## Joint Proposals

### ✍ Dust Free Surface Research

NRA 99-OSS-05 Advanced Cross Enterprise Technology Development for NASA Missions. A JPL/KSC joint proposal (with other NASA centers and Universities) to develop methodologies for the discovery of new and existing materials with low affinity for dust for use on solar cells, viewing ports, space suits, filters and moving parts.

### ✍ Virtual Center for Airborne Contaminants

NRA 00-HEDS-01. A JPL/KSC and other NASA Centers joint proposal to develop instrumentation for the detection and identification of cabin aerosols.

### ✍ Mars Sounding Rocket Science Payload

Proposal to design, develop, fabricate, test, and integrate a science payload for the proposed addition to PROMISE. The payload will consist of electrostatic sensors symmetrically mounted on the nose cone of a Mars sounding rocket to determine the electrostatic properties of the Martian atmosphere as a function of atmospheric pressure.